CLAIMS:

1. A lighting system provided with a light-emitting panel (1) comprising
- a front wall (2), a rear wall (3) situated opposite thereto, and furthermore, between the front and the rear wall (2, 3), a translucent input edge surface (4) for coupling light into the light-emitting panel (1),
- while at least a light source (6, 6', ...) is associated with the input edge surface (4), and
- while, in operation, light originating from the light source (6, 6', ...) is incident on the input edge surface (4) and distributes itself in the light-emitting panel (1), characterized
in that the rear wall (3) in a first portion (12) of the light-emitting panel (1) is provided with a multiplicity of steps (13, 13', ...), and
in that a second portion (22) of the light-emitting panel (1) widens from the input edge surface (4) in a direction facing the first portion (12).

2. A lighting system as claimed in claim 1, characterized in that a surface (17) of the steps (13, 13', ...) facing the input edge surface (4) makes an average angle β_{av} with respect to a normal (25) on a bisecting plane (20) bisecting the light-emitting panel (1),
wherein the bisecting plane (20) comprises a bisecting line (21) in the input edge surface (4), said bisecting line (21) being parallel to the front wall (2) and bisecting the input edge surface (4), and
wherein the angle β_{av} is at least 5°.

3. A lighting system as claimed in claim 1, characterized in that the average angle β is in the range $5 \leq \beta_{av} \leq 25°$.

4. A lighting system as claimed in claim 1 or 2, characterized in that the surface (17) of the steps (13, 13', ...) facing the input edge surface (4) comprises a specular reflector (31) on a side facing away from the input edge surface (4).

5. A lighting system as claimed in claim 1 or 2, characterized in that the steps (13, 13', ...) comprise a diffuser (32) on a side facing away from the light-emitting panel (1) while an air gap (33) is maintained between the steps (13, 13', ...) and the diffuser (32).

6. A lighting system as claimed in claim 1 or 2, characterized in that the height h_{st} of a step (13, 13', ...) is in the range $0.1 \leq h_{st} \leq 0.5$ mm.

7. A lighting system as claimed in claim 1 or 2, characterized in that the distance d_{st} between two steps (13, 13', ...) is in the range $0.1 \leq d_{st} \leq 10$ mm.

8. A lighting system as claimed in claim 1 or 2, characterized in that the number of steps (13, 13', ...) is in the range from 25 to 100.

9. A lighting system as claimed in claim 1 or 2, characterized in that the length l_{fp} of the first portion (12) as compared to the length l_{fw} of the front wall (2) is in the range $0.05 \leq l_{fp}/l_{fw} \leq 0.6$.

10. A lighting system as claimed in claim 1 or 2, characterized in that the ratio of the surface area S_{es} of the input edge surface (4) to the surface area S_{tr} in the light-emitting panel (1) at the transition between the first portion (12) and the second portion (22) of the light-emitting panel (1) satisfies the relation $1 < S_{tr}/S_{es} < 10$.

11. A lighting system as claimed in claim 2, characterized in that the ratio is $1.5 < S_{tr}/S_{es} < 4$.

12. A lighting system as claimed in claim 1 or 2, characterized in that the front wall (2) is provided with a translucent diffuser (8).

13. A lighting system as claimed in claim 1 or 2, characterized in that the front wall (2) is provided with a light redirecting foil.

14. A lighting system as claimed in claim 1 or 2, characterized in that the light source (6, 6', ...) comprises at least one white LED or at least two light-emitting diodes with different light emission wavelengths.

15. A lighting system as claimed in claim 13, characterized in that each of the light-emitting diodes has a luminous flux of at least 5 lm.

16. A display device provided with a lighting system as claimed in claim 1 or 2.

17. A display device as claimed in claim 15, which display device comprises a liquid crystal display (50).